

Notice of Allowability

Application No.

10/647,062

Applicant(s)

ZHONG ET AL.

Examiner

Art Unit

Tuan C. To

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/3/2007.
2. ☒ The allowed claim(s) is/are 1, 2, 4-8, 31, and 32.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Karl H. Koster on 09/18/2007:

The abstract filed on 08/22/2003 is replaced by the following new abstract:

Route planning methods for use by a package delivery service provider are disclosed that satisfy a stochastic daily demand while taking advantage of drivers' route familiarity over time. A model for estimating the value of driver familiarity is disclosed along with both an empirical and a mathematical model for estimating the value of route consistency, along with a Core Area Route Design which involves the concepts of combinational optimization, meta-heuristic algorithms, tabu search heuristics, network formulation modeling, and multi-stage graph modeling. In one embodiment, a service territory is divided into unassigned cells associated with a grid segment involving prior driver delivery stops, and a driver from a pool of unassigned drivers is assigned to a route based on examining each driver's grid segment visiting frequency limit with respect to a minimum limit so as to optimize driver selection based on of each driver's familiarity with the route.

EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE

This communication is an Examiner's reasons for allowance in response to application filed on 08/22/2003, assigned serial 10/647,062 and titled "Core Area Territory Planning for Optimizing Driver Familiarity and Route Flexibility".

The following is the Examiner's statement of reasons for the indication of allowable subject matter:

The applicant's amendment and arguments filed on 07/3/2007 have been fully considered. After carefully reconsidering the application and the applied prior art, the examiner has realized the application is patentably distinct from the prior art. The prior art are not deemed strong to make the application unpatentable.

After carefully reconsidering the application with special attention, the examiner has found the prior art does not disclose or fairly suggests a method of optimizing a route plan having a plurality of routes within a service territory comprising: "establishing a minimum grid segment visiting frequency limit; and classifying said subset of said plurality of unassigned cells associated with said grid segment as a core cell; assigning each said core cell to said identified most frequent driver, if said grid segment visiting frequency calculated for said cell and said most frequent driver is greater than said minimum grid segment visiting frequency limit, wherein said classifying and assigning optimizes said route plan having each one of said plurality of routes with stops in a cell classified as a core cell served by said most frequent driver that is most familiar with each core cell that comprises said one of said plurality of routes".

The prior art does not fairly suggest the limitation "establishing a minimum grid segment visiting frequency limit; and classifying said cells contained within said grid segment as a core cell; assigning each said core cell to said identified most frequent driver, if said grid segment visiting frequency calculated for said corresponding grid segment and said most frequent driver is greater than said minimum grid cell visiting frequency limit, wherein said classifying and assigning optimizes said route plan by having each one of said plurality of routes with stops in a cell classified as a core cell served by said most frequent driver that is most familiar with each core cell that comprises said one of said plurality of routes".

Therefore, the application is now set in a condition of allowance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan C To whose telephone number is (571) 272-6985. The examiner can normally be reached on from 8:00AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner,

A handwritten signature in black ink, appearing to read 'Tuan C To', is written over a horizontal line. The signature is stylized with a large, sweeping flourish that extends upwards and to the right.

Tuan C To

September 17, 2007

**UNITED STATES DEPARTMENT OF COMMERCE****U.S. Patent and Trademark Office**

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
10647062	8/22/03	ZHONG ET AL.	018360-254508

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EXAMINER

Tuan C. To

ART UNIT**PAPER**

3663

20070917

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents